Search strategy
Medline 1966 to 7/99 using the OVID interface. ({exp bronchiolitis OR exp bronchiolitis, viral OR exp respiratory syncytial virus infections OR exp respiratory syncytial virus, human OR RSV.mp OR bronchiolitis.mp} AND {atrovent.mp OR exp ipratropium OR ipratropium.mp}) LIMIT to human AND english.

Search outcome
Thirteen papers were found of which eight were irrelevant or of insufficient quality. The remaining five papers are shown in table 1.

Comments
All the trials found have faults; however not one showed a benefit from nebulised ipratropium in this condition.

Clinical bottom line
Nebulised ipratropium bromide is not indicated in bronchiolitis.

1 Henry RL, Milner AD, Stokes GM. Ineffectiveness of ipratropium bromide in acute bronchiolitis. *Arch Dis Child* 1983;**58**:925–6.
2 Wang EE, Milner R, Allen U, *et al.* Bronchodilators for treatment of mild bronchiolitis: a factorial randomised trial. *Arch Dis Child* 1992;**67**:289–93.
3 Schuh S, Johnson D, Canny G, *et al.* Efficacy of adding nebulized ipratropium bromide to nebulized albuterol therapy in acute bronchiolitis. *Pediatrics* 1992;**90**:920–3.
4 Chowdhury D, al Howasi M, Khalil M, *et al.* The role of bronchodilators in the management of bronchiolitis. *Ann Trop Paediatr* 1995;**15**:77–84.
5 Goh A, Chay OM, Foo AL, *et al.* Efficacy of bronchodilators in the treatment of bronchiolitis. *Singapore Med J* 1997;**38**:326–8.

Gag reflex and intubation

Report by Kevin Mackway-Jones, *Consultant*
Search checked by Chris Moulton, *Senior Lecturer*

Clinical scenario
A 25 year old woman is brought to the emergency department having taken an overdose of drugs. She will require gastric lavage but you consider that her airway is at risk. You call the duty anaesthetist who examines her and states that she does not need intubation as her gag reflex is present. You wonder whether gag reflex is a good test to predict the need for intubation.

Three part question
In [an adult with decreased conscious level] is [the gag reflex] a [good predictor of the need for intubation]?

Search strategy
Medline 1966 to 7/99 using the OVID interface. [gag reflex.mp].

Search outcome
Altogether 133 papers were found of which 128 were irrelevant to the study question or of insufficient quality for inclusion. The remaining five papers are shown in table 2.

Comment
The high incidence of absence of the gag reflex in normal volunteers argues against its usefulness as a specific predictor of need for intubation. It is surprising, therefore, that there is a high specificity in the clinical study of poisoned patients. In this study the sensitivity is too low to allow presence of gag to rule out (SnOut) the need for intubation. Other reflexes may be more predictive.

Clinical bottom line
The presence or absence of the gag reflex does not accurately predict the need for intubation.

1 Kulig K, Rumack BH, Rosen P. Gag reflex in assessing level of consciousness. *Lancet* 1982;**i**:565.
2 Moulton C, Pennycook A, Makower R. Relation between Glasgow coma scale and the gag reflex. *BMJ* 1991;**303**:240–1.

Table 2

Author, date, and country	*Patient group*	*Study type (level of evidence)*	*Outcomes*	*Key results*	*Study weaknesses*
Kulig *et al*, 1982, USA[1]	38 emergency room patients Gag reflex assessed	Observational	Presence of gag reflex matched to conscious level	12 patients with a gag reflex were significantly obtunded 1 patient without a gag reflex was fully awake	
Moulton *et al*, 1991, UK[2]	111 emergency department patients requiring neurological observation Gag reflex and GCS assessed	Observational	Presence of gag reflex matched to conscious level	Gag reflex may be significantly attenuated or absent at all levels of GCS In more conscious patients (GCS >8) 64% of those exposed to drugs had depressed gag compared with 8% of those with head injury	
Chan *et al*, 1993, Australia[3]	414 patients with poisoning attending an emergency department Prediction of need for intubation	Diagnostic	Absence of gag on admission GCS <8	Sensitivity 70%, specificity 100% Sensitivity 90%, specificity 95%	Gold standard is clinical judgment
Davies *et al*, 1995, UK[4]	140 healthy volunteers Gag reflex assessed	Observational	Presence of gag reflex	Gag reflex was absent in 37% of subjects	
Leder, 1996, USA[5]	63 healthy volunteers Gag reflex assessed	Observational	Presence of gag reflex	Gag reflex was absent in 13% of subjects	

GCS = Glasgow coma score.

3 Chan B, Gaudry P, Grattan-Smith TM. The use of the Glasgow coma scale in poisoning. *J Emerg Med* 1993;**11**:579–82.
4 Davies E, Kidd D, Stone SP, *et al.* Pharyngeal sensation and gag reflex in healthy subjects. *Lancet* 1995;**345**:487–8.
5 Leder SB. Gag reflex and dysphagia. *Head Neck* 1996;**18**: 13841.

Bell's palsy and prednisolone

Report by Joel Desmond, *Senior House Officer*
Search checked by Paul Wallman, *Specialist Registrar*

Clinical scenario
A 35 year old man presents to the emergency department with a one day history of a right sided facial weakness. Examination reveals a complete right facial nerve palsy, without any evidence of herpes zoster, middle ear disease, trauma, or further neurology. A diagnosis of idiopathic (Bell's) facial nerve palsy is made. You wonder whether early high dose steroids would improve his prognosis or speed of recovery.

Three part question
In [an adult with Bell's palsy] would [early steroid therapy] improve [time to recovery and outcome]?

Search strategy
Medline 1966 to 7/99 using the OVID interface. ({exp facial paralysis OR facial paralysis.mp OR bells palsy.mp} AND {exp steroids OR steroid$.mp} AND maximally sensitive RCT filter) LIMIT to human AND english.

Search outcome
Altogether 72 papers were found of which 65 were irrelevant and three of insufficient quality for inclusion. The remaining four papers are shown in table 3.

Comment
No studies have demonstrated a benefit in starting steroids in those with incomplete facial paralysis as they have a good prognosis. In addition, no studies have demonstrated an improvement in the time to recovery in any patients with Bell's palsy. If any benefit has been shown, then it is in those with a complete facial paralysis with steroids being started early. There are significant criticisms with all the studies conducted so far, and a large prospective randomised controlled trial demonstrating a clear benefit has yet to be conducted.

Clinical bottom line
Current evidence does not support the early use of high dose steroids in idiopathic incomplete facial nerve palsy. In patients with complete paralysis early steroids may be of benefit.

1 May M, Wette R, Hardin WB Jr, *et al.* The use of steroids in Bell's palsy: a prospective controlled study. *Laryngoscope* 1976;**86**:1111–22.
2 Wolf SM, Wagner JH, Davidson S, *et al.* Treatment of Bell's palsy with prednisolone: a prospective, randomised study. *Neurology* 1978;**28**:158–61.
3 Austin JR, Peskind SP, Austin SG, *et al.* Idiopathic facial nerve paralysis: a randomised double blind controlled study of placebo versus prednisolone. *Laryngoscope* 1993; **103**:1326–33.
4 Shafshak TS, Essa AY, Bakey FA. The possible contributing factors for the success of steroid therapy in Bell's palsy: a clinical and electrophysiological study. *J Laryngol Otol* 1994;**108**:940–3.

Table 3

Author, date, and country	*Patient group*	*Study type (level of evidence)*	*Outcomes*	*Key results*	*Study weaknesses*
May *et al*, 1976, USA[1]	51 patients	PRCT	Visual assessment of motor recovery	No difference	Small study
	Prednisolone *v* control		Autonomic dysfunction	No difference	
			Time of recovery	No difference	
Wolf *et al*, 1978, USA[2]	239 patients	PRCT	Electromyography	No difference	Not blinded
	Prednisolone (60 mg) *v* control		Facial strength	No difference	Control group not treated with placebo
			Autonomic dysfunction	Prednisolone is beneficial in preventing autonomic synkinesis	Only 30% of patients had complete denervation, and 20% had mild Bell's palsy on entry into the trial
			Time to recovery	No difference	
Austin *et al*, 1993, USA[3]	107 patients	PRCT	Functional nerve testing	Significant improvement in facial nerve function	Small study
	Prednisolone (60 mg) *v* control		Time to recovery	No difference in recovery time	29% lost to follow up after randomisation
			Electromyography	No difference in denervation	
Shafshak *et al*, 1994, Egypt[4]	160 patients with complete facial palsy	Clinical trial	Facial nerve excitability	Significantly better recovery with steroids, especially if given <24 hours after onset	Not randomised
	Prednisolone (1 mg/kg) *v* control				Not blinded
					Controls were those who refused steroids or had a contraindication

PRCT = prospective randomised controlled trial.